

# 6<sup>th</sup> Signal Processing and Monitoring (SPaM) in Labour International Workshop 2026

Oxford, UK, June 25-27, 2026

[Website link](#)

Please go to the web-link above to register and see social and programme updates!

## THURSDAY (25<sup>TH</sup> JUNE)

**9:00 REGISTRATION (COFFEE + PASTRIES)**

**9:30 – 9:40 WELCOME FROM THE ORGANISERS**

**9:40 – 10:00 WHERE ARE WE WITH INTRAPARTUM FETAL MONITORING?**

Austin Ugwumadu, St George's Hospital, UK

**10:00 – 11:00 THE INTRAPARTUM CTG AND ITS RELATION TO BIRTH OUTCOMES (PART 1)**

*Chair: TBC*

**Masahiro Nakao, Mie University Graduate School of Medicine (Japan)**

Timing and underlying cause of perinatal brain injury leading to severe cerebral palsy: data from a nationwide cohort

**Mikko Tarvonen, University of Helsinki (Finland)**

Chorioamnionitis and the fetal heart rate responses in the human fetus during term labor

**11:00 – 11:30 COFFEE BREAK**

**11:30 – 12:30 THE INTRAPARTUM CTG AND ITS RELATION TO BIRTH OUTCOMES (PART 2)**

*Chair: TBC*

**Tomoaki Ikeda, Mie University Graduate School of Medicine (Japan)**

Circadian Modulation of Fetal Heart Rate Variability: Translational Evidence from Humans, Fetal Sheep, and Zebrafish

**Susana Pereira & team (UK)**

TBC

**12:30 – 14:00 LUNCH**

**14:00 – 15:30 UPDATES FROM CANADA/US TEAM**

*Chair: Antoniya Georgieva*

**Philip Warrick, PeriGen and McGill University (Canada)**

Clinical Insights for HIE Risk Detection from Transfer-Entropy-based Latent Representations of CTG Signals

**Robert Kearney, McGill University (Canada)**

Trajectories of Contractions and Decelerations Throughout Labor

**Michael Kuzniewicz, Kaiser Permanente Northern California (US)**

TBC

**Marie Cornet, University of California San Francisco (US)**

TBC

**Mahdi Shamsi, PeriGen (Canada)**

TBC

**15:30 – 16:00 COFFEE BREAK**

**16:00 – 17:00 COMPUTER-BASED CTG ANALYSIS (PART 1)**

*Chair: Ivan Jordanov*

**Antoniya Georgieva, Oxford Labour Monitoring team, University of Oxford (UK)**

Fit4Labour for simple triage at labour onset – development and validation with >147,000 births from 6 hospitals in 2 countries.

**Martin Daumer, Technical University of Munich & TRIUM (Germany)**

Algorithms and Software to predict fetal distress and short-term variation

**18:00 -19:30 SOCIAL PROGRAM: TREASURE HUNT IN OXFORD**

**19:30 – INFORMAL DINNER AT SET LOCATION**

**FRIDAY (26<sup>TH</sup> JUNE)**

**8:45 REGISTRATION (COFFEE + PASTRIES)**

**9:15 – 10:45 CAN TECHNOLOGY ENHANCE WOMEN'S EXPERIENCES IN LABOUR?**

**ETHICAL, EQUITABLE AND RESPONSIBLE USE OF NEW TECHNOLOGIES IN MATERNITY CARE**

*Chair: Mariana Tome*

**Catherine Hopley, Sheffield Teaching Hospitals Trust (UK)**

Maternal choice and consent when it comes to CTG vs intermittent auscultation, including case studies.

**Sahana Narayan, Oxford Labour Monitoring team, University of Oxford (UK)**

What the machine cannot hear: maternal testimony, clinical technology, and the limits of intrapartum risk recognition

**Deborah Fox, University of Technology Sydney (Australia)**

Impact of technologies on women's experiences and midwifery practice: social, ethical, economic and environmental impacts of virtual models of maternity care and the design, implementation and evaluation of intrapartum fetal monitoring innovations.

**Rachel Plachcinski, Patient, Public and Parents representative (UK)**

TBC

**Whole workshop discussion**

**10:45 – 11:15 COFFEE BREAK**

**11:15 – 12:30 CHRIS REDMAN MEMORIAL LECTURE, Sir Sabaratnam Arulkumaran (UK)**

**12:30 – 14:00 LUNCH**

**14:00 – 15:30 UPDATES FROM EINDHOVEN UNIVERSITY (NL): ELECTROPHYSIOLOGICAL SIGNAL PROCESSING AND MODELLING (FLASH TALKS)**

*Chair: Danilo Pani*

**Alessandra Galli**

Advancing Non-Invasive Fetal Monitoring through Electrophysiological Signals

**Swedha Sankaranarayanan**

Synthesis of Multi-Channel Intrapartum Fetal ECG Signals with Deep Generative Modelling

**Irene Lensen**

Automatic Extraction of Cardiac Time Intervals from Fetal ECG Using a Personalized Dictionary Approach

**Busra Ünlü**

The Impact of Missing FHR Values on the Accuracy of Heart Rate Variability Features

**Giulia Acquaviva**

Toward Non-Invasive Fetal Brain Monitoring through Multimodal Integration of Electrophysiological Measures

**Milad Mazaheri**

Assessing Normal Values of Postpartum Electrohysterography: Towards Prediction of Postpartum Hemorrhage

**Giulio Steyde**

Does Maternal Respiration Drive Fetal–Maternal Cardiovascular Coupling?

**15:30 – 16:00 COFFEE BREAK**

**16:00 – 17:30 TRANSABDOMINAL AND WEARABLE CTG**

*Chair: Maria Signorini*

**Nicolò Pini, Isabelle Mueller, and Bill Fifer (US)**

Novel Technological Solutions for Assessing Antepartum Maternal and Fetal Wellbeing Using Wearable Technologies

**Shantanu Pathak, Doto Health (India)**

TBC

**Emerson Keenan, University of Melbourne and Kali Healthcare (Australia)**

High quality CTG classification using a battery powered device.

**Giulia Baldazzi, University Cagliari, Italy (Italy)**

Unveiling fECG morphology from non-invasive trans-abdominal recordings by a data-driven framework

18:00 – *there may be social PUNTING activity (TBC)*

**20:00 – 23:00 OFFICIAL WORKSHOP DINNER – [CHERWELL BOATHOUSE](#)**

**SATURDAY (27<sup>TH</sup> JUNE)**

**8:45 REGISTRATION (COFFEE + PASTRIES)**

**9:15 – 10:15 COMPUTER-BASED CTG ANALYSIS (PART 2)**

*Chair: TBC*

**Martin Frasch (US)**

Pregnancy health monitoring: where are we headed? Experiences using the recently released 10M ECG foundation model and more.

**Ana Fernandez, Inselspital, University Hospital Bern (Switzerland)**

Deep Learning for CTG.

**Peter Djuric, Stony Brook University (US)**

TBC

**10:15 – 10:45 COFFEE BREAK**

**10:45 – 11:30 BIG DATASETS FOR CTG RESEARCH / FEDERATED LEARNING POSSIBILITIES**

*Chair: Emerson Keenan*

**Martin Daumer, Technical University of Munich & TRIUM (Germany)**

Towards a CTG data hub.

**Sophia Andres, University Hospital Ulm (Germany)**

A proposed multicentre project for the extraction of CTG + clinical data in Germany.

**11:30 – 12:00 FLASHTALKS/PANEL DISCUSSION: WHERE IS INTRAPARTUM FETAL MONITORING HEADING AND WHAT ARE THE BIGGEST CHALLENGES**

**Perspectives from industry and the fetal monitor producers**

**12:00 – 12:15 REFLECTIONS FROM THE WORKSHOP AND IMPLICATIONS FOR FUTURE WORK**

TBC

**12:15 – 12:30 FINAL WORKSHOP DISCUSSIONS AND CLOSING REMARKS**

**12:30 GOOD-BYE**